

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: Unassigned
Examiner: Unassigned

In Re PATENT APPLICATION OF:

Applicants : Mitsuhiro OGIHARA
Serial No. : Unassigned
Filed : December 2, 2003
For : SEMICONDUCTOR EPITAXIAL
STRUCTURE AND
SEMICONDUCTOR LIGHT-
EMITTING DEVICE
Attorney Ref. : MAE 301

INFORMATION
DISCLOSURE
STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an information disclosure statement submitted in compliance with the timing requirements of 37 C.F.R. §1.97(b)(1).

Attached are copies of one Japanese patent publication and a Japanese-language article. Any relevance of the Japanese patent publication can be gleaned from the attached English-language abstract. Any further relevance of the patent publication and the article can be gleaned from page 1 of the present application, where these documents are discussed, and from the attached explanations of relevance. The documents are listed on the attached Form PTO-1449.

Since this Information Disclosure Statement is being filed with the application, no certification or fee is required, and the requirements of 37 C.F.R. §§1.97 and 1.98 are deemed to be fully met as to the documents submitted. Consideration of the submitted documents is respectfully requested.

Respectfully submitted,



Robert H. Berdo, Jr. (Reg. No. 38,075)
RABIN & BERDO, P.C.
CUSTOMER NO. 23995
(202) 371-8976
(202) 408-0924 fax

December 2, 2003

Date

RHB:tz

FILED ENCLOSED: \$ 810
Please charge any further
fee to our Deposit Account
No. 12-0002

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT				Atty Docket		Application No.	
				MAE 301		To Be Assigned	
				Applicant			
				Mitsuhiko OGIHARA			
				Filing Date		Group Unit	
				December 2, 2003		To Be Assigned	
U.S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Sub-Class	Filing Date
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Sub-Class	Translation
	AH	11-340501	12/10/99	Japan			Abstract
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
	AO	Y. Okuno, <i>Hakko Diodo</i> (Light-Emitting Diodes), published by Sangyo Tosho, 1993, pp. 29-31					
	AP						
	AQ						
	AR						
Examiner					Date Considered		
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							

PROPOSED INFORMATION DISCLOSURE STATEMENT**PARTICULARS**

(1) Y. Okuno, *Hakko Daiodo*, Sangyo Tosho, 1993, pp. 29-31

(2) Japanese Unexamined Patent Publication No. 11-340501

Date of Publication: December 10, 1999

Inventors: Sugawara et al.

Applicant: Ricoh Co. Ltd.

Title of the Invention: Light-Emitting Diode and Light-Emitting Diode Array

EXPLANATION

(1) In Fig. 1, a non-doped $\text{Al}_{0.2}\text{Ga}_{0.8}\text{As}$ active layer is sandwiched between a p-type $\text{Al}_{0.4}\text{Ga}_{0.6}\text{As}$ clad layer and an n-type $\text{Al}_{0.4}\text{Ga}_{0.6}\text{As}$ clad layer. The active layer is 0.05 micrometers thick. The n-type clad layer has a carrier concentration of $1 \times 10^{17} \text{cm}^{-3}$.

No English translation is readily available.

(2) In the device in Fig. 2.3(b), a p-type $\text{Al}_{0.35}\text{Ga}_{0.65}\text{As}$ active layer is sandwiched between a p-type $\text{Al}_{0.65}\text{Ga}_{0.35}\text{As}$ clad layer and an n-type $\text{Al}_{0.65}\text{Ga}_{0.35}\text{As}$ clad layer. Optical output P_i increases as the thickness d of the active layer decreases.

An English-language abstract is attached.